

WHAT IS CLAIMED IS:

1. A switch panel comprising:

5 a touch plate comprising an optically transparent layer having first and second sides, said optically transparent layer having an index of refraction greater than that of air;

an image generator that displays an image comprising a plurality of button positions to a person viewing said touch plate from said first side,

10 an imaging system that records an image of said first surface of said touch plate;

a controller that is responsive to said image and generates an output signal if said touch plate is touched at one of said button positions; and

15 a light source that generates a light signal that is reflected between said first and second sides of said touch plate within said transparent layer.

2. The switch panel of Claim 1 wherein a portion of said light signal is reflected
20 toward said second surface at an angle greater than the critical angle in said optically transparent layer when said first surface is touched with a force greater than a predetermined force.

3. The switch panel of Claim 1 wherein said first surface deforms sufficiently when a
25 predetermined pressure is applied thereto to cause a portion of said light signal to be reflected toward said second surface at an angle greater than the critical angle in said optically transparent layer.

4. The switch panel of Claim 1 wherein said optically transparent layer comprises a
30 plastic.

5. The switch panel of Claim 1 wherein said optically transparent layer comprises glass.

6. The switch panel of Claim 1 wherein said optically transparent layer comprises a pressure deformable layer of optically transparent material bonded to a layer of non-deformable material.

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7. The switch panel of Claim 1 wherein said light signal comprises light of a probe wavelength and said image generator generates an image that is devoid of light of said probe wavelength.

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8. The switch panel of Claim 7 wherein said imaging system selectively images light of said probe wavelength.

9. The switch panel of Claim 1 wherein said imaging system generates a difference image comprising the difference of first and second images, said first image being formed
15 when said light signal is absent from said optically transparent layer and said second image being generated when said light signal is present in said optically transparent layer.

10. The switch panel of Claim 1 wherein said image generator comprises a programmable display.

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11. The switch panel of Claim 1 wherein said image generator comprises a transparency.